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ABSTRACT

College and university learning centers have evolved from narrowly defined remedial services to agencies serving the entire student community. The changing role of learning centers necessitates systematic program evaluation and assessment of student needs. During 1975, the Colorado State University Learning Laboratory staff collected data on client characteristics and client perceptions of learning laboratory programs. Results are presented and major findings are discussed. (1) The University Learning Laboratory serves a diversified clientele including students with all levels of academic functioning. (2) Needs of Learning Laboratory clients can be appropriately categorized as remedial, preventative and developmental, following the model of Morrill, Oetting and Hurst (1974). (3) A large majority (70-80%) of clients responding to the survey had favorable attitudes toward Learning Laboratory services. (4) One-half to two-thirds of clients responding to the survey agreed that the Learning Laboratory had helped them to develop skills, improve academic performance and enrich their learning experiences. (5) Recommendations are presented for continuous assessment of student needs to allow the Learning Laboratory to respond to changing campus conditions. (Author)

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COLORADO STATE UNIVERSITY

The University Learning Laboratory: Meeting Student Needs in the '70s

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Abstract

College and university learning centers have evolved from narrowly defined remedial services to agencies serving the entire student community. The changing role of learning centers necessitates systematic program evaluation and assessment of student needs. During 1975, the Colorado State University Learning Laboratory staff collected data on client characteristics and client perceptions of learning laboratory programs. Results are presented and major findings are discussed. (1) The University Learning Laboratory serves a diversified clientele including students with all levels of academic functioning. (2) Needs of Learning Laboratory clients can be appropriately categorized as remedial, preventative and developmental, following the model of Morrill, Oetting and Hurst (1974). (3) A large majority (70-80%) of clients responding to the survey had favorable attitudes toward Learning Laboratory services. (4) One-half to two-thirds of clients responding to the survey agreed that the Learning Laboratory had helped them to develop skills, improve academic performance and enrich their learning experiences. (5) Recommendations are presented for continuous assessment of student needs to allow the Learning Laboratory to respond to changing campus conditions.

History of the Learning Center Movement

Learning centers have proliferated on college campuses since the mid-1960s. A growing body of literature documents the legitimacy of the learning center movement in terms of assistance provided to students (Christ, 1971; Deverian, 1974; Johnson & Peterson, 1972; Kerstiens, 1975; Adams, 1975; Enright, 1975).

Learning centers were originally created to remedy skill deficits of the clientele termed by K. Patricia Cross (1976), "the new students of the 1970's." These are the students--ethnic minorities, low income whites, older and part-time students--whose increased enrollment in post-secondary educational institutions was made possible by open admission, "special admissions," and affirmative action policies. From their beginnings as isolated efforts launched by student personnel staff, learning centers became increasingly sophisticated, developing revolutionary methods of instruction and new programs for personal development (Cross, 1976).

Within the past several years, the nature and purpose of learning centers has changed. Growing concern by educational institutions with maintaining high academic standards has focused attention on the need to help all students to learn more effectively and efficiently. Learning centers are now evolving from a narrowly defined remedial focus to include services designed to aid all students to make maximum use of the learning environment (Boyce, 1976; Kerstiens, 1975). This new emphasis reflects a changing theme in higher education in recent years, which Cross (1976) suggests has shifted from one of "accent on access" in the 1960's to "accent on learning" for the 1970's.

Conceptual Model for Learning Center Services

Learning centers have evolved from offering services designed to remedy skill deficits of specific subgroups of students to providing multifaceted services to the entire student community. However, the implementation of new services has outpaced the development of a theoretical basis for learning center

programming. A model which may prove applicable is that proposed by Morrill, Oetting and Hurst (1974) to describe counseling center clientele and services. Within this model services are classified as remedial, preventative or developmental. The recent trends within the learning center movement suggest a departure from an exclusively remedial perspective and the inclusion of preventative and developmental services. If the proposed model does indeed fit services provided by learning centers, it could serve as a framework for future systematic program development.

Environmental Assessment and Program Development for Learning Centers

In recent years, many new and innovative programs have been developed by learning centers. However, as the learning center clientele becomes more diverse, a systematic effort must be made to insure that the programs offered match the needs of the students. The developmental model of higher education articulated by the American Council on Education recognizes the importance of examining the interaction between the student and the environment. The four basic variables in the model are (1) the human characteristics that the students bring with them into the (2) total university environment and (3) the way these student and campus variables interact to influence and produce the desired (4) goals or results of higher education. This basic conceptualization can be applied to learning centers.

In order to maximize student use of the learning environment, the learning centers must offer programs that fit the specific needs of the students. The first task is to identify the academic needs which particular groups of students have which are not currently met by the environment. Different subgroups of students will be found to have different needs and these needs may be remedial, preventative or developmental. Once the unmet needs of particular students have been identified through environmental assessment, specific systematic program development can be carried out.

Accountability of Learning Centers

As learning centers expand their services to meet the varied needs of a wide range of students, it is essential that they respond to the institutional concern with accountability. In an era of limited resources and reduction of services, all student services are being called upon to demonstrate their worth and effectiveness. Learning centers must assume the responsibility for evaluating their services and determining in what way students benefit from the use of the services.

Background: Colorado State University Learning Laboratory

The Colorado State University Learning Laboratory was initially established in 1968. Its primary function was to be an academic support service for Project GO, a program designed to encourage and support the participation of minority and low income youth in the educational opportunities of the University. While it has fully supported Project GO, the University Learning Laboratory, like other learning centers across the nation, has evolved into a student affairs agency which offers a variety of services to all students. The primary objective of the University Learning Laboratory is to enhance learning for all students.

The University Learning Laboratory has expanded its services during the past several years. In an attempt to provide information for future development, a systematic investigation was commenced in 1974 and is being continued. The investigation has the following goals: (1) to document the present role of the Learning Laboratory and to determine the applicability of a remedial-preventative-developmental model; (2) to identify unmet student needs in the area of academic skills; (3) to evaluate the existing services provided by the University Learning Laboratory. In its initial phases, the investigation has been focused on four questions: (1) What are the characteristics and needs of students using the Learning Laboratory? (2) How do clients reach the Laboratory?

(3) How do clients view the Learning Laboratory? (4) Does the Learning Laboratory help students?

METHOD

Instrumentation

Two questionnaires were administered to University Learning Laboratory (ULL) clients during 1975: a registration form and an assessment blank (cf. Appendices A and B). The registration form includes a number of demographic items such as sex, University class, college and cumulative GPA, as well as items on referral source, previous use of the Learning Laboratory and reason for seeking assistance.[1] The assessment blank contains ten Likert-type items on client attitudes toward the Learning Laboratory and its programs and six items on client perceptions of the effectiveness of ULL programs.[2] In an additional section of the assessment blank, each respondent is asked to rank order three possible reasons for coming to the Learning Laboratory. The three reasons represent the categories of remedial, preventative and developmental (Morrill, Oetting and Hurst, 1974) which have been proposed in this report as a model for categorizing learning center clients and services.

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[1]Two versions of the registration form were used during 1975. On the basis of student responses to the original form, four additional alternatives were added to the item, "Was there a specific experience that caused you to come to the Learning Lab?" In all other respects the two versions of the registration form are identical.

[2]Two versions of the assessment blank were used during 1975. The revised form included two new items on client benefit which replaced two items from the original form.

Procedure and Sample

Beginning in January, 1975, all students using the University Learning Laboratory at CSU have been asked to complete a registration form. The original form was administered during the Winter and Spring academic quarters, and a revised form was administered during the Fall semester.

During Spring, 1975, the original form of the assessment blank was sent to all students who had used the ULL during Winter and Spring quarters. In addition, assessment blanks were sent to the students who had been registered as ULL clients during 1974. A revised form of the assessment blank was sent to all students coming to the ULL during Fall semester. Of 1,481 assessment blanks mailed to former ULL clients, 711 or 48% were answered and returned.

RESULTS

The Learning Laboratory Client: Who Uses the ULL?

Services of the Learning Laboratory

A brief explanation of the Learning Laboratory services will aid the reader in understanding the results presented in this report. The University Learning Laboratory at CSU offers four discreet services to students: a reading program, a study skills program, an English/writing program, and a math/science tutoring program. A student may enroll in more than one ULL program during any one academic term. A student may also continue to use Learning Laboratory services from one academic term to another. For this reason, summations of enrollment figures across academic terms may be misleading and are avoided in this report.

During 1975, the following numbers of Colorado State University students used the services of the University Learning Laboratory: 336 during Winter quarter, 108 during Spring quarter and 437 during Fall semester. The Math/Science tutoring program served the largest number of students, followed by the Reading, Study Skills and English/Writing programs (see Table 1).

Users of ULL Services: Sex, Class and College

In order to determine who uses the Learning Laboratory, specific characteristics (namely sex, University class and college) of the ULL clients were tabulated. These data are presented in Tables 2, 3, and 4, along with comparative data for the entire CSU student population. It is clear that the Learning Laboratory serves both men and women students. While the percentages vary from term to term, there is no consistent under-representation of either sex. Similarly, each of the nine University Colleges is well represented within the Learning Laboratory clientele, taking into consideration the total size of each college. Turning to University class, a definite pattern does emerge. The Learning Laboratory is used most heavily by freshmen, who account for approximately 40% of the clientele. However, while ULL use tends to decline with advancing class status, students from all levels of the University, freshman through graduate student, are served by the Learning Laboratory.

Membership in Project GO

One of the original purposes of the University Learning Laboratory was to serve the students in Project GO. Therefore, one item on the registration form asks about membership in this program. Table 5 shows the number of Project GO students served each academic term by the University Learning Laboratory and the number in each of the four ULL programs, as well as the percentages of Learning Laboratory enrollment which these numbers represent. During 1975, between 6% and 9% of Learning Laboratory clients were also Project GO members. Within individual programs, this figure varied from 4% to 14%, with no consistent pattern evident. It would appear that Project GO is being served by the ULL, but that the Learning Laboratory has expanded to the extent that Project GO students are a small percentage of the total client population.

Table 1

Enrollment in Learning Laboratory Programs: 1975

	Winter	Spring	Fall
Reading	80	51	130
Study Skills	79	57	117
English/Writing	56	50	78
Math/Science	211	114	260

Table 2

Representation of Men and Women Within

Learning Laboratory Clientele

	Learning Lab: 1975			CSU: 1975[a]
	Winter	Spring	Fall	
Men	166(50%)	120(58%)	210(48%)	56-57%
Women	169(50%)	88(42%)	226(52%)	43-44%

[a]These figures represent the range of CSU enrollment percentages for three separate academic terms: Winter quarter, Spring quarter, and Fall semester.

Table 3

Representation of University Classes Within

Learning Laboratory Clientele

	Learning Lab: 1975			CSU: 1975[a]
	Winter	Spring	Fall	
Freshman	144(43%)	74(36%)	187(43%)	20-22%
Sophomore	57(17%)	47(23%)	106(24%)	19-20%
Junior	64(19%)	35(17%)	56(13%)	19-20%
Senior	34(10%)	32(16%)	37(9%)	22-29%
Graduate	33(10%)	13(6%)	28(6%)	13-15%

[a]These figures represent the range of CSU enrollment percentages for three separate academic terms: Winter quarter, Spring quarter, and Fall semester.

Table 4

Representation of University Colleges Within

Learning Laboratory Clientele

	Learning Lab: 1975			CSU: 1975[b]
	Winter	Spring	Fall	
Agriculture	19(6%)	25(12%)	40(9%)	7-8%
Business	52(16%)	43(21%)	34(8%)	10-11%
Engineering	19(6%)	16(8%)	33(8%)	7-8%
Forestry	49(15%)	18(9%)	75(17%)	11%
Home Ec.	45(13%)	28(14%)	37(9%)	10%
Humanities & Social Sciences	75(22%)[a]	37(18%)	79(18%)	22-25%
Professional Studies		2(1%)	13(3%)	7%
Natural Sciences	43(13%)	19(9%)	69(16%)	13-14%
Vet. Medicine	30(9%)	12(6%)	46(11%)	9%

[a]After Winter Quarter, 1975, the College of Humanities and Social Sciences was split into two colleges, the new college being named the College of Professional Studies

[b]These figures represent the range of CSU enrollment percentages for three separate academic terms: Winter quarter, Spring quarter and Fall semester.

Table 5

Representation of Project GO Students

Within Learning Laboratory Clientele

1975

	Winter		Spring		Fall	
	N	%of ULL Program	N	%of ULL Program	N	%of ULL Program
All Programs	29	9%	13	6%	32	7%
Reading	9	11%	5	10%	7	5%
Study Skills	7	9%	8	14%	7	6%
English/Writing	7	13%	4	8%	7	9%
Math/Science	16	8%	5	4%	22	9%

Cumulative University GPA

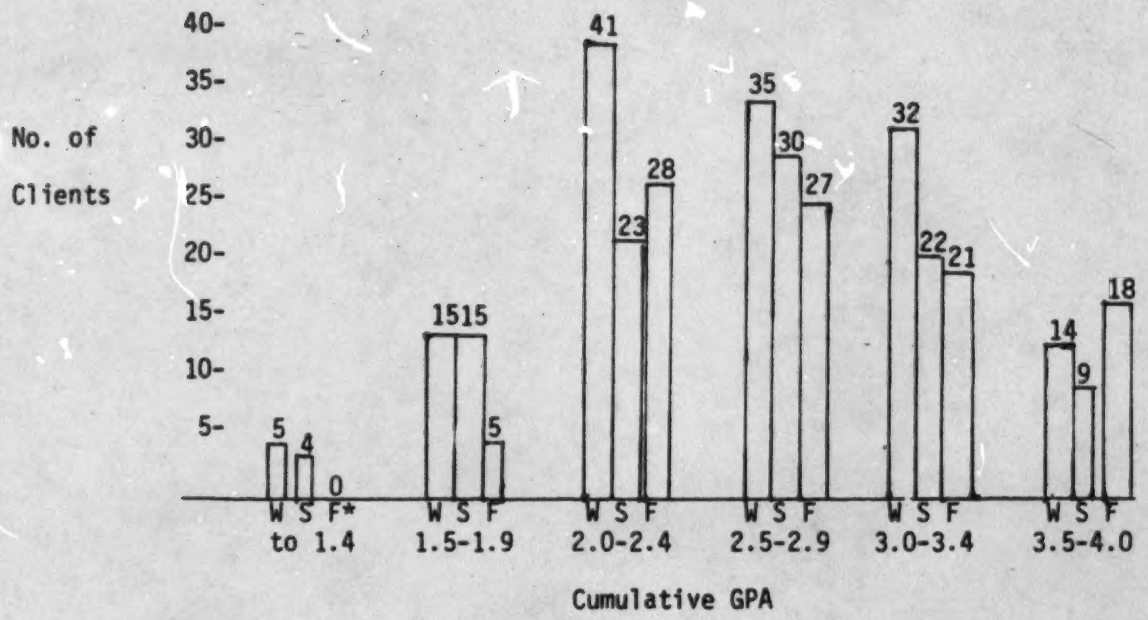
It was suggested earlier in this report that the Learning Laboratory has evolved into an agency serving diverse student needs. Some students may seek ULL assistance with problems which have resulted in generally poor academic performance; others may seek to prevent academic difficulties before they occur or they may be experiencing difficulty in one area despite good overall academic performance. Still other students may be quite successful academically and be seeking to enhance their learning or improve their efficiency. We would expect this diversity of students needs to be reflected to some extent in the cumulative grade point averages of the Learning Laboratory clients.

The data on cumulative GPA of the Learning Laboratory clients are presented for each sex separately. Figure 1 shows the distribution of GPA's for male students who were ULL clients during each academic term. Figure 2 presents the same information for female students. The means and standard deviations of cumulative GPA's for Learning Laboratory clients enrolled in each of the four programs and for ULL clients in general are shown for each academic term in Tables 6 and 7. For purposes of comparison, the mean cumulative GPA for all CSU undergraduates, as reported by the University, is also shown for each academic term. It should be noted that CSU grade point average was available for only 40% of the Fall semester clients. This can be attributed to the large proportion of entering freshmen, as well as new graduate students and transfer students, who would not yet have established a grade point average at CSU.

The results show that the Learning Laboratory does indeed serve students at all levels of academic performance. The mean GPA of Learning Lab clients has been in the B-minus range and slightly below the CSU mean for undergraduates. During 1975, of those Learning Laboratory clients for whom CSU grade point averages were available, 31% to 39% had a C-average or lower (2.4 or less), 50% to 54% had a B-average (2.5-3.4) and 11% to 14% had an A-average (3.5 or above).

Figure 1

Cumulative GPA of ULL Clients: Men



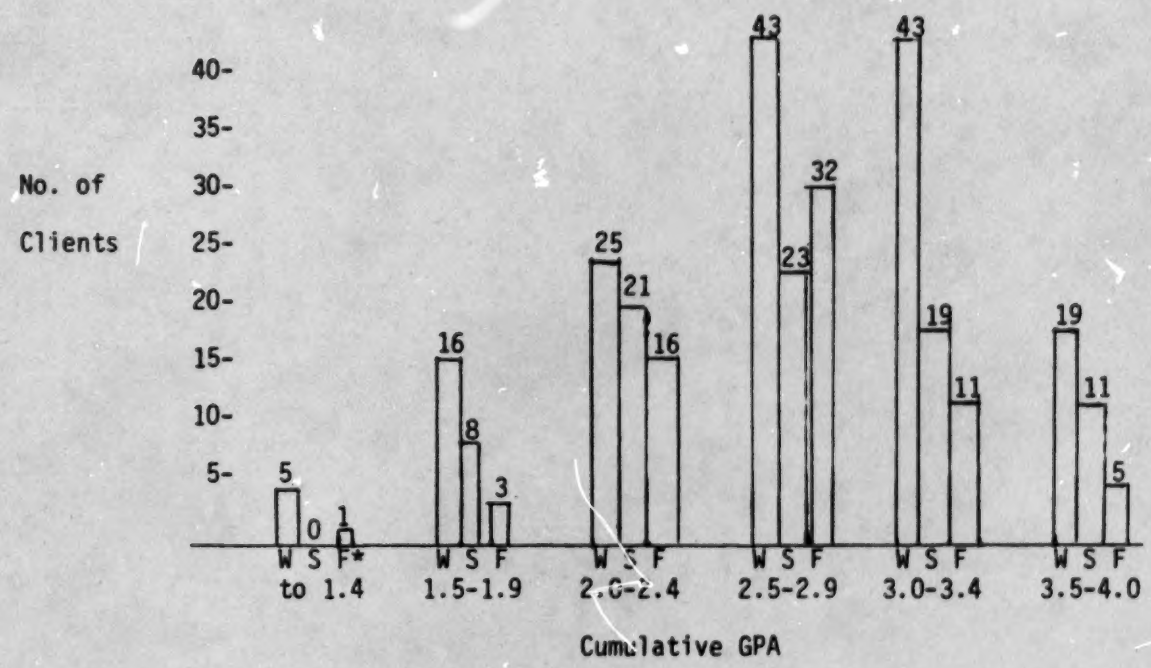
*W=Winter term

S=Spring term

F=Fall term

Figure 2

Cumulative GPA of ULL Clients: Women



*W=Winter term

S=Spring term

F=Fall term

Table 6

Cumulative GPA, 1975: Men

Learning Laboratory:	Winter			Spring			Fall		
	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.	N
All Clients	2.59	.64	142	2.57	.63	103	2.77	.59	99
Reading	2.78	.67	35	2.62	.71	26	2.89	.64	35
Study Skills	2.36	.66	34	2.40	.66	29	2.61	.50	18
English/Writing	2.42	.69	20	2.65	.56	32	2.91	.63	27
Math/Science	2.56	.58	84	2.48	.59	56	2.60	.59	47
CSU: Undergraduate	2.75			2.76			2.72		

Table 7

Cumulative GPA, 1975: Women

Learning Laboratory:	Winter			Spring			Fall		
	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.	N
All Clients	2.73	.61	151	2.71	.55	80	2.71	.57	68
Reading	2.66	.72	35	2.72	.60	23	2.95	.54	13
Study Skills	2.25	.57	35	2.58	.61	23	2.67	.55	20
English/Writing	2.88	.52	22	2.64	.72	11	2.97	.38	16
Math/Science	2.72	.57	106	2.72	.50	46	2.70	.61	37
CSU: Undergraduate	2.90			2.91			2.90		

Diagnostic Categorization of ULL Clients

Since the Learning Laboratory is being used by a wide range of University students, it is desirable to categorize Learning Laboratory clients on the basis of their current functioning and predicted needs. Such a diagnostic scheme would assist the Learning Laboratory in tailoring unique services to meet different student needs. As proposed earlier in this report, a model which might apply to learning centers is one developed by Morrill, Oetting and Hurst (1974). In order to determine the applicability of this model to Learning Laboratory clients, the categories of remedial, preventative and developmental were incorporated into the assessment blank.

Each respondent to the assessment blank was asked to rank one of three possible alternatives as the most important reason he or she had for coming to the ULL. The three alternatives were (1) "for help with a problem which has caused me major academic difficulties," (2) "for help with a problem which has caused me only minor academic difficulties so far," and (3) "in order to broaden or enrich my learning experience."

The results appear in Table 8. While the remedial category is most often indicated, more than half of the clients responding chose preventative or developmental reasons. It should be noted that this diagnostic information is only available for a portion of ULL clients, since not all clients returned the completed assessment blank.

Diagnostic categorization of Learning Laboratory clients provides interesting information about the specific ULL programs (see Table 9). The results indicate that the Math/Science Tutoring program can be characterized as primarily remedial and preventative. While the Study Skills and English/Writing programs have remedial aspects, they appear to serve preventative and developmental needs as well. The Reading program appears to serve a developmental function in a large number of cases.

Table 8

Most Important Reason for Coming to Learning Laboratory:

From 1975 Assessment Blank

Major Academic Difficulty (Remedial)	314	(45%)
Minor Academic Difficulty (Preventative)	243	(35%)
Broaden or Enrich Learning (Developmental)	137	(20%)

Table 9

Most Important Reason for Coming to Learning Laboratory:

From 1975 Assessment Blank, by ULL Program

	Reading	Study Skills	English/ Writing	Math/ Science
Remedial	53 (27%)	85 (45%)	44 (39%)	222 (59%)
Preventative	55 (28%)	63 (33%)	37 (33%)	137 (36%)
Developmental	88 (45%)	42 (22%)	32 (28%)	18 (5%)
	n=196	n=190	n=113	n=377

The Referral Process:

How do Students Reach the Learning Laboratory?

Having examined the characteristics of Learning Laboratory clients, the process whereby the students come to seek assistance at the Laboratory will now be discussed. After determining how current ULL clients locate the Learning Laboratory, the Laboratory will be in a position to facilitate this process so that students with appropriate needs may be served more effectively. The data collected in the present study are a necessary first step in investigating this referral process.

By the time a student arrives at the reception area of the Learning Laboratory, a chain of events has already occurred. The student must have realized the existence of an academic need, whether remedial, preventative or developmental. Then he or she must have identified the existence and location of the resource in the environment to meet the need, namely the ULL. These two aspects of the referral process will be considered separately.

The Precipitating Event

It is assumed that for each Learning Lab client there is a specific experience which causes the individual to seek assistance at a particular time. The event might involve the identification of a previously unperceived academic need, as when a student receives a poor grade on the first quiz in a new class. Even in the case of long standing academic difficulty, there is presumably a reason why assistance is sought at one particular time when it has not been sought previously. This specific experience, which causes the student to identify a need and which leads the student toward contact with the Learning Laboratory, is called the precipitating event.

Using the Learning Laboratory registration form, an effort has been made to gather information about precipitating events. This effort has been only partially successful so far. The original registration form contained only four

choices of specific experiences leading to Learning Laboratory contact. The revised form included four additional alternatives. The frequency with which various alternative responses were chosen is shown in Table 10. General responses such as being discouraged, falling behind, and not understanding the subject are chosen by more students than are specific events such as failing a test or receiving a poor grade on a paper. Further work is needed to refine the alternatives in an attempt to identify specific precipitating events more clearly.

The Referral Source

Once the potential ULL client has identified an academic need, the student must learn of the existence, purpose and location of the Learning Laboratory before the referral process can be complete. In some instances, identifying the need and learning of the services offered by the ULL takes place simultaneously, as may be the case when an instructor refers a student. In other cases, these two aspects of the referral process are distinct.

Students were asked to indicate on the registration form who referred them to the Learning Laboratory. Table 11 shows the referral sources indicated by Learning Laboratory clients during each academic term. The majority of ULL clients are either self-referred or referred by a friend. Others report referral through academic channels: by their advisors, by other faculty, or by the Dean's office. Some are referred by the University Counseling Center. The large number of self-referrals merits further investigation. In the future, students will be asked to indicate how they found out about the Learning Laboratory services--whether through newspapers, catalogues, posters, campus directories or other sources.

A special instance of self-referral occurs when students have been enrolled in Learning Laboratory programs in the past and thus have firsthand knowledge of ULL services. A substantial number of Learning Laboratory clients have been to the ULL during a prior academic term, although they have not necessarily been

Table 10

Experience Precipitating Contact With Learning Laboratory

1975

	Winter	Spring	Fall
Failed a test	42 (12%)	17 (8%)	53 (12%)
Poor grade on a paper	21 (6%)	22 (11%)	20 (5%)
Discouraged about studies	87 (26%)	34 (16%)	47 (11%)
Behind in coursework	66 (20%)	44 (21%)	60 (14%)
Need to improve reading skills[a]			60 (14%)
Don't understand subject[a]			99 (23%)
Falling GPA[a]			13 (3%)
Teacher recommendation[a]			11 (3%)
Other or Missing	120 (36%)	91 (44%)	74 (17%)

[a]Data collection on these alternatives was begun Fall, 1975.

Table 11

Referral Sources Specified by Learning Laboratory Clients

1975

	Winter		Spring		Fall	
Referral Source:						
Self	139	(41%)	93	(45%)	159	(36%)
Friend	72	(21%)	38	(18%)	108	(25%)
Academic	65	(19%)	40	(19%)	74	(17%)
Counseling Center	20	(6%)	11	(5%)	24	(6%)
Other or Missing	40	(12%)	26	(13%)	72	(17%)

enrolled in the same program in both instances. During 1975, of Winter quarter clients, 81 or 24% reported having been to the Learning Laboratory previously. Sixty-one or 29% of clients from Spring quarter and 75 or 17% of clients from Fall semester had had previous experience with the ULL.

Student Perceptions: How do Clients View the Learning Laboratory?

Thus far in this report the characteristics and needs of ULL clients and the process by which they arrive at the Laboratory have been examined. Now the focus will shift to what happens once the student makes contact with the Learning Laboratory. What are the client's perceptions of the ULL and its services? Student attitudes may yield important information that will help the Learning Laboratory maintain the quality of its services to students.

The Learning Laboratory clients who completed the assessment blank responded to ten questions regarding their perceptions of the ULL and its programs. All items were answered on a 5-point scale with "1" representing "strongly disagree" and "5" representing "strongly agree." Half of the items were worded to indicate satisfaction with the Learning Laboratory and half were worded to indicate dissatisfaction. Five of the items referred to specific aspects of the Learning Laboratory: instructor competence, clarity and interest; materials used; physical setting. Responses to these questions are summarized in Table 12. The remaining five items referred to more general student attitudes toward the Learning Laboratory experience. Responses to these items are summarized in Table 13. The results on both the specific and the general items show that ULL clients have favorable perceptions of the Laboratory.

Program Effectiveness: Does the Learning Laboratory Help Students?

In this final section, data will be presented on the effect of ULL programs on student academic functioning. Does the Learning Laboratory succeed in helping its clients? Do the programs offered by the Learning Laboratory meet the

Table 12

Student Perceptions of the ULL:

Instructors, Materials, Physical Setting

Item[a]	N	$\bar{x}$	S.D.	Strongly Disagree	Mildly Disagree	Agree/ Disagree Equally	Mildly Agree	Strongly Agree	Total Percent Satisfied
Instructor knowledgeable about subject	643	4.1	1.2	34 (5%)	53 (8%)	58 (9%)	152 (24%)	346 (54%)	78%[b]
Instructor clear in explanations	636	3.9	1.3	49 (8%)	62 (10%)	73 (11%)	194 (31%)	258 (41%)	72%[b]
Instructor NOT interested in my progress	618	1.9	1.1	306 (50%)	169 (27%)	82 (13%)	31 (5%)	30 (5%)	77%[c]
ULL physical arrangement interferes with learning	602	2.2	1.1	202 (34%)	191 (32%)	139 (23%)	48 (8%)	22 (4%)	66%[c]
Materials used of little use to me	379	2.3	1.3	118 (31%)	120 (32%)	72 (19%)	33 (9%)	36 (10%)	63%[c]

[a]See Appendix B for non-abbreviated form of statements.

[b]Sum of categories "Mildly Agree" and "Strongly Agree."

[c]Sum of categories "Mildly Disagree" and "Strongly Disagree."

Table 13

Student Perceptions of the ULL:

General Impressions

Item[a]	N	$\bar{x}$	S.D.	Strongly Disagree	Mildly Disagree	Agree/ Disagree Equally	Mildly Agree	Strongly Agree	Total Percent Satisfied
ULL experience- a good one	697	4.0	1.2	38 (5%)	49 (7%)	82 (12%)	201 (29%)	327 (47%)	76%[b]
ULL atmosphere- warm & friendly	689	4.1	1.0	14 (2%)	40 (6%)	107 (16%)	238 (35%)	290 (42%)	77%[b]
ULL atmosphere- conducive to learning	658	4.1	0.9	11 (2%)	26 (4%)	124 (19%)	244 (37%)	253 (38%)	75%[b]
Others' opinions of ULL made me hesitant	522	1.7	1.1	325 (62%)	114(23%)	39 (7%)	24 (5%)	20 (4%)	85%[c]
I would NOT recommend ULL to a friend	688	1.5	1.0	478 (69%)	124 (18%)	41 (6%)	19 (3%)	26 (4%)	87%[c]

[a]See Appendix B for non-abbreviated form of statements.

[b]Sum of categories "Mildly Agree" and "Strongly Agree."

[c]Sum of categories "Mildly Disagree" and "Strongly Disagree."

needs of the students? The information has been solicited from the clients themselves and represents their impressions of the effectiveness of ULL programs.

Students completing the assessment blank responded to a subset of items relating to the success of the Learning Laboratory in teaching skills, enhancing learning, and helping the student improve academic performance. All items were answered on a 5-point scale with "1" representing "strongly disagree" and "5" representing "strongly agree." Responses to these items are summarized in Table 14. Two-thirds of the respondents agreed that they had improved their skills, and about 60% agreed that they had improved their academic performance. Fifty percent of those responding to the question agreed that they had broadened or enriched their learning experiences.

DISCUSSION

Recognizing the changing nature of learning center goals and clientele, the Colorado State University Learning Laboratory has embarked on an investigation of its services and their relationship to student needs. As stated earlier, this investigation has three objectives: (1) to document the present role of the Learning Laboratory and determine the applicability of a remedial-preventative-developmental model; (2) to identify unmet student needs in the area of academic skill; (3) to evaluate the existing services provided by the Learning Laboratory. This report has presented results from the first phase of the ongoing investigation.

The Expanded Role of the Learning Laboratory at CSU

The present study confirms that the Learning Laboratory serves a diversified student clientele. Although usage by freshmen predominates, all levels of the University and each of the nine University colleges are represented among ULL users.

The results support the use of a new model that recognizes that students with all levels of academic functioning use the Learning Laboratory services.

Table 14

Effectiveness of ULL Programs:

Client Self-Report

Item[a]	N	$\bar{x}$	S.D.	Strongly Disagree	Mildly Agree	Agree/ Disagree Equally	Mildly Agree	Strongly Agree	Total Percent Agree
I was able to improve my skills	545	3.7	1.2	49 (9%)	53 (10%)	82 (15%)	208 (38%)	153 (28%)	66%
I was able to pinpoint my deficiencies	618	3.6	1.3	61 (10%)	62 (10%)	125 (20%)	208 (34%)	162 (26%)	60%
I improved my academic performance	612	3.5	1.2	58 (9%)	58 (9%)	136 (22%)	239 (39%)	121 (20%)	59%
I broadened or enriched my learning	574	3.3	1.2	60 (10%)	74 (13%)	153 (27%)	195 (34%)	92 (16%)	50%

[a]See Appendix B for non-abbreviated form of statements.

Needs of ULL clients can be appropriately categorized as remedial, preventative or developmental, following the model of Morrill, Oetting and Hurst (1974). Among student surveyed in this study, over half fit into the preventative or developmental categories. Moreover, specific ULL programs are multifaceted and meet needs of students in all three categories. Of the four programs, Math/Science Tutoring serves an essentially remedial function. The focus of the remaining services tends to be preventative or developmental. The Reading program in particular attracted a substantial number of students in the developmental category.

Continued collection of diagnostic information can assist ULL program coordinators in adjusting their services to meet the needs of a continually changing clientele. For instance, an increase of enrollment in study skills workshops by students with developmental needs might suggest changes in the workshop format. The flexibility of ULL programs allows the Laboratory to be responsive to changes in client needs.

The finding that the Learning Laboratory is serving a diverse clientele is not unexpected. In the past several years, ULL programs have been intentionally structured to have campus-wide appeal and to facilitate the learning process for all CSU students.

Assessment of Student Needs

A commitment to meeting the diverse needs of a wide range of CSU students necessitates systematic assessment of student needs and of the learning environment. The identification of unmet student needs may suggest areas for further program development or it may point to a needed intervention in the referral process by which students with appropriate needs reach the Learning Laboratory.

The present investigation shows that the Learning Laboratory is meeting needs of students at all levels of the University. However, the results do indicate an underutilization by the upperclasses. Perhaps programs should be

better geared to meet the specific needs of advanced students. In addition, existing programs might be advertised in a way which would better inform advanced students of the opportunities available.

Further investigation is needed to identify student needs not currently met by the ULL. New target populations, such as the older, returning students, need to be identified and assessed as they develop within the campus community. The second phase of the current investigation will explore student, faculty and staff perceptions of the functions which should be served by the Learning Laboratory. This study should provide pertinent information on the unmet needs of students and suggestions for program development.

Accountability

In this time of budgetary restrictions and limited resources, it is essential that the Learning Laboratory be able to document the usefulness of its programs to the University community. The current study has shown that most Learning Laboratory clients have decidedly positive attitudes toward the services of the ULL. A large majority (70-80%) of those sampled were favorably impressed with the competence and interest shown by the instructors. They felt the ULL atmosphere to be both friendly and conducive to learning. They were not hesitant to come to the Learning Laboratory, and they would recommend it to their friends.

The present study also provided favorable evidence with regard to program effectiveness. One-half to two-thirds of the students responding to the assessment questions agreed that the ULL assisted them in such areas as skill development, improvement of academic performance and enrichment of learning experience. It should be noted, of course, that not all students reported positive outcomes. Continued gathering of assessment and demographic data should enable the ULL to determine which programs are most effective for which students and to direct clients to the most appropriate programs for their needs.

Conclusion

The Colorado State University Learning Laboratory has come a long way since its creation in 1968. The results of this initial study indicate that the Learning Laboratory is providing successful individualized learning assistance to a broad spectrum of students. The present study is the first stage of ongoing monitoring of ULL services and the identification of the academic support needs of CSU students. The Learning Laboratory staff is fully committed to undertaking continuous assessment and research that will enable the ULL to adapt to changing campus conditions in its effort to provide quality services to a student population characterized by a diversity of intellectual abilities and backgrounds.

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APPENDIX A

Colorado State University Learning Laboratory

Registration Form

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QY
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COLORADO STATE UNIVERSITY
LEARNING LABORATORY

The following questions are designed to assist the University Learning Lab staff in serving you more effectively.

1. Name: (please print)_____
last first middle

2. Local Address:_____ Phone:_____

3. Home Address:_____
street city state zip

Below are a number of questions:

A. If you are asked for non-coded information (i.e., ID, age, GPA, and hours/week you work) please fill in the appropriate spaces to the right.

EXAMPLE: 4. Student ID. 9 8 7 0 1 2 5 7 2

B. If you are asked to select one response from several, please mark the number which corresponds to your choice in the space provided to the right.

EXAMPLE: 8. Are you a transfer student? 1=Yes - 2=No 2

4. Student ID	_ _ _ _ _ _ _ _ _
5. Age:	_ _
6. Sex: 1=Male - 2=Female	_
7. What was your High School GPA? (if known)	_ _ _
8. Are you a transfer student: 1=Yes - 2=No	_
9. If you are a transfer student, what GPA did you bring to CSU?	_ _ _
10. University Status . . . . . 1. Freshman 2. Sophomore 3. Junior 4. Senior 5. Graduate 6. Other: (please specify) _____	_
11. College . . . . . 1. Agriculture 2. Business 3. Engineering 4. Forestry & Nat. Resources 5. Home Economics 6. Natural Science 7. Humanities & Social Sciences 8. Professional Studies 9. Veterinary Med & Biomedical Sciences	_

12. Major: (please print - DO NOT MARK SPACES AT RIGHT) ___

_____

13. Are you a Project GO Student? 1=Yes - 2=No . . . . . _

14. Are you presently employed? 1=Yes - 2=No . . . . . _

15. If you are employed, how many hours a week do you work? . . __

16. Have you been to the Learning Lab before? 1=Yes - 2=No . . _

17. Who referred you to the Learning Lab? . . . . . _

1. Advisor	5. Self
2. Friend	6. Univ. Counseling Center
3. Faculty	7. Other (please specify)
4. Dean's Office	_____

18. What is your current CSU GAP (if known) . . . . . ___

19. Which Learning Lab service(s) do you wish to use? . . . . .

Reading? 1=Yes - 2=No . . . _
Study Skills? 1=Yes - 2=No . . . _
English/Writing? 1=Yes - 2=No . . . _
Tutoring? 1=Yes - 2=No . . . _

20. If you wish to be tutored, please list the course numbers in the spaces provided below. (DO NOT MARK AT RIGHT)

EXAMPLE: M121

_____ _____

_____ _____

_____ _____

21. Was there a specific experience that caused you to decide to come to the Learning Lab? (Choose only one) . . . . . _

1. Failed a test.
2. Poor grade on a paper.
3. Feeling discouraged about studies.
4. Getting behind in course work.
5. Need to improve reading skills
6. Don't understand subject.
7. Failing G.P.A.
8. Teacher recommended I come.
9. Other (please specify) _____

APPENDIX B

Colorado State Universty Learning Laboratory

Assessment Blank

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SY
For clerical purposes

UNIVERSITY LEARNING LABORATORY ASSESSMENT BLANK

Please answer the following questions as they apply to the services you received in the University Learning Laboratory. Return the questionnaire in the manner indicated. Thank you for your help.

PART I

Instructions:

Below are a number of questions:

A. If you are asked for non-coded information (i.e., ID, etc.) please fill in the appropriate spaces to the right.

EXAMPLE: 2. Student I.D. 9 3 6 5 2 0 7 3

B. If you are asked to select one response from several, please mark the number which corresponds to your choice in the space provided to the right.

EXAMPLE: 6. Which services of the Learning Lab did you use? Reading? 1=Yes - 2=No. . . . 1

---

1. Name: (PLEASE PRINT)_____
last first middle

2. Student I.D. . . . . _ _ _ _ _ _ _ _

3. Sex: 1=Male - 2=Female . . . . . _

4. Were you on scholastic probation when you first came to the Learning Lab this semester? 1=Yes - 2=No . . . . . _

5. During the past semester, how many times did you use the services of the Learning Lab? Please indicate for each of our departments.

1. 0 times
2. 1 to 5 times
3. 5 to 10 times
4. 10 to 15 times
5. over 15 times

Reading . . . . . _
Study Skills . . . . . _
English/Writing . . . . _
Math-Science . . . . . _

6. If you used the math-science program, please list course numbers in the spaces provided below.
(DO NOT MARK AT RIGHT)

EXAMPLE: M111

_____ _ _ _ _ _
_____ _ _ _ _ _
_____ _ _ _ _ _

7. For what reasons did you come to the Learning Lab? Please rank the reasons that apply in order of their importance to you. (Place a "1" in the space to the right of the most important reason. Place a "2" to the right of the second most important reason, and a "3" to the right of the third most important reason, if applicable.)

A. I came to the Learning Lab for help with a problem which has caused me major academic difficulties	_
B. I came to the Learning Lab for help with a problem which has caused me only minor academic difficulties so far	_
C. I came to the Learning Lab in order to broaden or enrich my learning experiences	_

PART II

Instructions:

Below you are asked to rate various aspects of the services of the Learning Laboratory. Please answer all questions in terms of YOUR experiences with the Learning Laboratory.

For each statement, circle the number which BEST DESCRIBES YOUR FEELINGS OR PERCEPTIONS, and then place the number in the space to the right of the statement.

	Strongly Disagree	Mildly Disagree	Agree/ Disagree Equally	Mildly Agree	Strongly Agree	Not Applicable	
8. Coming to the Learning Lab assisted me in getting off of scholastic probation	1	2	3	4	5	6	__
9. Since coming to the Learning Lab, I have improved my academic performance	1	2	3	4	5	6	__
10. My grades in the subject for which I was tutored have improved	1	2	3	4	5	6	__
11. I was able to pinpoint my difficulties, with Learning Lab's assistance	1	2	3	4	5	6	__
12. I was able to improve my skills (reading, writing, study skills, etc.	1	2	3	4	5	6	__

	Strongly Disagree	Mildly Disagree	Agree/ Disagree Equally	Mildly Agree	Strongly Agree	Not Applicable	
13. Since coming to the Learning Lab, I have broadened or enriched my learning experiences. . .	1	2	3	4	5	6	___
14. My experience with the Learning Lab was a good one.	1	2	3	4	5	6	___
15. Initially, others' opinions of the Learning Lab made me hesitant to come.	1	2	3	4	5	6	___
16. I would NOT recommend the Learning Lab to a friend.	1	2	3	4	5	6	___
17. My tutor/instructor was knowledgeable about the subject matter.	1	2	3	4	5	6	___
18. My tutor/instructor was NOT interested in my progress.	1	2	3	4	5	6	___
19. My tutor/instructor was clear in the explanation of subject matter	1	2	3	4	5	6	___
20. The physical arrangement of the Learning Lab interferes with learning & studying.	1	2	3	4	5	6	___
21. The materials (books, slides, etc.) used in Learning Lab programs were of little use to me	1	2	3	4	5	6	___
22. I found the atmosphere of the Learning Lab to be warm and friendly	1	2	3	4	5	6	___
23. I found the atmosphere of the Learning Lab to be conducive to learning . .	1	2	3	4	5	6	___

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